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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,001	01/19/2006	Laurent Labrousse	284320US0PCT	5146
22850 7590 11/04/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER MCDONALD, RODNEY GLENN				
ART UNIT 1795		PAPER NUMBER		
NOTIFICATION DATE 11/04/2008		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

### Office Action Summary

**Application No.**

10/565,001

**Applicant(s)**

LABROUSSE ET AL.

**Examiner**

Rodney G. McDonald

**Art Unit**

1795

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 9-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 16-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 1/19/06, 7/21/06
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Inventor's Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I claims 1-8 and 16-20 in the reply filed on September 18, 2008 is acknowledged. The traversal is on the ground(s) that no adequate reasons and/or examples have been provided to support a conclusion of patentable distinctiveness between the identified groups and that no serious burden exists for search the multiple sets of claims.

This is not found persuasive because the technical feature present in all four groups is the material exhibiting photocatalytic properties comprising a titanium dioxide coating and this feature was determined to not be the applicants' contribution over the prior art of Chopin et al. (US PN. 6,037,289).

In particular, Chopin et al. teaches a titanium dioxide coating on a substrate (title) wherein the coating is a material having photocatalytic properties (Claim 1). Due to the prior art teaching the technical feature which connects all four groups of the applicants' claims, the feature is determined to not be a special technical feature and unity between the groups is lacking.

Furthermore, searching method and product claims poses a serious burden because of the different classifications for these different statutory inventions.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Honjo et al. (EP 1 182 174 A1).

Regarding claim 1, Honjo et al. teach a method of preparing a material exhibiting photocatalytic properties comprising a coating comprising at least partially crystallized titanium oxide. (Paragraphs 0013-0016) The process comprises heating a transparent substrate wherein the substrate comprises a coating of titanium dioxide on at least a first face of the substrate to a temperature greater than 600 degrees C and conducting crystallization of the titanium dioxide at the temperature greater than 600 degrees C thereby at least partially crystallizing the titanium dioxide and forming the material. (Paragraph 0013-0016)

Regarding claim 2, Honjo et al. teach the temperature is greater than 630 degrees C. (See paragraph 0013, 0017, 0021)

Regarding claim 3, Honjo et al. teach a bending treatment. (Paragraph 0013)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4-7 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honjo et al. (EP 1 182 174 A1) in view of Greenberg et al. (U.S. Pat. 6,413,581).

Honjo et al. is discussed above and all is as applies above. (See Honjo et al. discussed above)

The differences between Honjo et al. and the present claims is that the titanium dioxide coating being formed by deposition wherein the substrate is glass and wherein the substrate has been provided beforehand with one or more functional multilayers, one or more functional layers or a combination thereof is not discussed (Claim 4), comprising deposition on at least a second face of the substrate of one or more functional multilayers, one or more functional layers or a combination thereof is not discussed (Claim 5), the heating and conducting are conducted after the depositions on at least the first and second faces is not discussed (Claim 6), the deposition on the at least first and second faces is carried out by cathode sputtering is not discussed (Claim

7) and the at least partially crystallized titanium oxide being in anatase form is not discussed (Claim 16-20).

Regarding claim 4, Honjo et al. teach titanium dioxide coating being formed by deposition wherein the substrate is glass. (Paragraph 0013-0020) Honjo et al. further suggest forming additional films by sputtering in addition to depositing the titanium dioxide film. (Paragraph 0023) Greenberg et al. teach providing one or more functional layers before deposition the titanium dioxide layer on glass. (Column 9 lines 57-67; Column 10 lines 1-34)

Regarding claim 5, Greenberg et al. teach forming titanium oxide on the air side and the tin side of the substrate. (i.e. both sides of the substrate) (Column 8 lines 49-51) Since Greenberg et al. teach utilizing at least one functional layer between the titanium oxide layer and the substrate it would follow that one would provide at least one functional layer on both sides of the substrate since titanium oxide as taught by Greenburg et al. is provided on both sides of the substrate. (Column 9 lines 57-67)

Regarding claim 6, Greenberg et al. teach heating and conducting after depositions of the at least one layer. (See Example 5)

Regarding claim 7, Greenberg et al. teach the at least one functional layer can be deposited by MSVD (magnetron sputter vapor deposition). (Column 10 lines 33-34) Greenberg et al. also teach the titanium oxide can be formed by MSVD (magnetron sputter vapor deposition). (Column 4 lines 18-21; Column 4 lines 31-33)

Regarding claims 16-20, Greenberg et al. teach that anatase titanium dioxide is desired to be produced. (Column 3 lines 37-50)

The motivation for utilizing the features of Greenberg et al. is that it allows production of a photocatalytically activated self-cleaning coating with no sodium ion migration. (See Abstract; Column 9 lines 57-67)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Honjo et al. by utilizing the features of Greenberg et al. because it allows for producing a photocatalytically activated self-cleaning coating with no sodium ion migration.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Honjo et al. in view of Greenberg et al. as applied to claims 4-7 and 16-20 above, and further in view of Krisko et al. (U.S. Pat. 6,964,731).

The differences not yet discussed is the deposition on the at least first and second faces being carried out in line simultaneously or almost simultaneously along substantially identical directions and in opposite senses is not discussed (Claim 8).

Regarding claim 8, Greenberg et al. already discussed teach in line deposition for a CVD process but equates CVD to sputtering for forming titanium dioxide films. (See Fig. 3) Krisko et al. teach in Fig. 5 sputtering in line to form coatings on both faces of the substrate. (See Fig. 5)

The motivation for utilizing the features of Krisko et al. is that it allows for forming coatings on both sides of the substrate. (Column 12 lines 33-36)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the features of Krisko et al. because it allows for forming coatings on both sides of the substrate.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 571-272-1340. The examiner can normally be reached on M-Th with every Friday off..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rodney G. McDonald/  
Primary Examiner, Art Unit 1795

Rodney G. McDonald  
Primary Examiner  
Art Unit 1795

RM  
October 28, 2008